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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/780,414	02/12/2001	Katsura Otaki	108598	8508

25944 7590 02/13/2003

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EXAMINER

TURNER, SAMUEL A

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/780,414

Applicant(s)

OTAKI, KATSURA

Examiner

Samuel A. Turner

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: _____

Office Action

The title of the invention is not descriptive. A new title is required that is clearly indicative of the **invention** to which the claims are directed.

The drawings are objected to because figures 6 and 7 must be labeled as prior art. Correction is required.

Rejections Under 35 U.S.C. § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-17 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Independent claims 1-4 and 6-8 are narrative such that the structure or elements claimed are not set forth so as to meet the requirements of 112/2nd.

In claim 8 there is no antecedent basis for "an other part of polarized light".

Rejections Under 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 9-11, and 15 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Ichihara(5,076,695). See figures 2 and 3, and also see equation 1 which defines pinhole size.

Claims 9 11, and 15 are hybrid process claims, while claim 10 is a product by process hybrid claim.

2173.05(p) Claim Directed to Product-By- Process or Product and Process

I. PRODUCT-BY-PROCESS

A product-by-process claim, which is a product claim that defines the claimed product in terms of the process by which it is made, is proper. In re Luck, 476 F.2d 650, 177 USPQ 523 (CCPA 1973); In re Pilkington, 411 F.2d 1345, 162 USPQ 145 (CCPA 1969); In re Stepan, 394 F.2d 1013, 156 USPQ 143 (CCPA 1967). A claim to a device, apparatus, manufacture, or composition of matter may contain a reference to the process in which it is intended to be used without being objectionable under 35 U.S.C. 112, second paragraph, so long as it is clear that the claim is directed to the product and not the process. An applicant may present claims of varying scope even if it is necessary to describe the claimed product in product-by-process terms. Ex parte Pantzer, 176 USPQ 141 (Bd. App. 1972).

Here claim 10 is directed to the product, an exposure apparatus with a reflecting mirror, which is the same mirror for an exposure apparatus which Ichihara is inspecting.

In regard to claims 9, 11, and 15; the point diffraction interferometer of Ichihara is used to manufacture multilayer film mirrors for exposure systems.

Claims 3, 7, 8, 12, 16, and 17 are rejected under 35 U.S.C. § 102(b) as being

clearly anticipated by Sommargren(5,548,403). See figures 1-7.

Rejections Under 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 13, and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ichihara(5,076,695) in view of Sommargren(5,548,403).

Ichihara teaches a point diffraction interferometer comprising light source(21), lens(22), pinhole mirror(23), lens under test(24), imaging lens(26), and detector array(27). See figures 2 and 3. Not taught is the use of polarized light, a single mode fiber replacing the pinhole mirror, or a multiple film pinhole mirror.

Sommargren teaches a point diffraction interferometer comprising a light source(12), filter(14), $\frac{1}{2}$ wave plate(16), shearing interferometer(22,24,28,26), polarizer(32), lens(34), pinhole mirror(36), lens under test(50), imaging lens system(52,54,56), and detector array(58). See figure 1. In figure 2B the pinhole mirror it taught comprising substrate(38), first reflective surface(40) having the pinhole(42) and a second reflective film(44). Figures 4-6 teach the use of a single mode fiber(72) which replaces the pinhole mirror. Note the reflective coating(73) on

Serial Number: 09/780,414
Art Unit: 2877

-5-

the fiber end in figures 5 and 6.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the pinhole mirror of Ichihara with the pinhole mirror taught in figure 2B of Sommargren to increase the reflectivity of the pinhole mirror. While Sommargren teaches a substrate-pinhole reflective film-reflective film pinhole mirror, reversing the order of the two films would have been obvious because the resulting mirror would have been functionally equivalent to the mirror of Sommargren. The idea taught in Sommargren is to increase the reflectivity of the pinhole mirror.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel A. Turner whose telephone number is (703) 308-4803. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font, can be reached on (703) 308-4881.

The fax phone number for this Group is (703) 308-7722. The faxing of papers related to this application must conform with the notice published in the Official Gazette, 1096 O.G. 30 (15 November 1989). The Group receptionist telephone number is (703) 308-0956.

Any inquiry of a technical nature regarding reissues, petitions, and terminal disclaimers should be directed to Ed Glick whose telephone number is (703) 308-4858, Hien Phan whose telephone number is (703) 308-7502, or Ed Westin whose telephone number is (703) 308-4823.

Any other inquiry of a technical nature, and all inquiries of a general nature including those relating to the status of this application or any patent term adjustment should be directed to TC2800 Customer Service Office whose telephone number is (703) 306-3329.



Samuel A. Turner
Primary Examiner
Art Unit 2877

SAT
February 8, 2003